

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) An electronic component comprising:

a multi-layer substrate having an upper side and under side, the multi-layer substrate comprising at least one integrated impedance converter, the at least one integrated impedance converter comprising at least one inductor and at least one capacitor integrated in the multi-layer substrate, the multi-layer substrate comprising first external contacts on the under side; and

at least one chip component comprising second external contacts, the at least one chip component being on the upper side of the multi-layer substrate, the at least one chip component being electrically connected to the at least one integrated impedance converter, the second external contacts being electrically connected to the first external contacts via an impedance conversion circuit that is at least partially integrated into the multilayer substrate, the impedance conversion circuit comprising an inductive component that is electrically connected in series between the first external contacts and the second external contacts;

wherein the at least one chip component comprises a bulk acoustic wave (BAW) resonator or a surface acoustic wave (SAW) resonator; ~~and~~

wherein the at least one integrated impedance converter is configured to transform an impedance of the at least one chip component by ~~at least 5 %~~ to 400%;

wherein the at least one chip component comprises one or more inputs and outputs; and

wherein at least one input and/or at least one output of the at least one chip component conducts a symmetrical signal.

2. (Previously Presented) The electronic component of claim 1, wherein the second external contacts comprise surface mounted device contacts.

3. (Previously Presented) The electronic component of claim 1, wherein the multi-layer substrate comprises at least one passive circuit element or at least one active circuit element.

4. (Previously Presented) The electronic component of claim 1, further comprising at least one filter circuit connected to the multilayer substrate.

5 and 6. (Canceled)

7. (Previously Presented) The electronic component of claim 1, further comprising at least one microwave ceramic filter connected to the multilayer substrate.

8. (Previously Presented) The electronic component of claim 1, further comprising at least one inductive-capacitive (LC) chip filter connected to the multilayer substrate.

9. (Previously Presented) The electronic component of claim 1, further comprising at least one stripline filter connected to the multilayer substrate.

10. (Previously Presented) The electronic component of claim 1, further comprising:  
at least one discrete circuit element connected to the multi-layer substrate, the at least one discrete circuit element comprising an active circuit element or a passive circuit element.

11. (Previously Presented) The electronic component of claim 10, wherein the at least one discrete circuit element comprises at least a part of one of the following: a high-frequency circuit, an adjustment circuit, an impedance converter, an antenna circuit, a diode circuit, a high-pass filter, a low-pass filter, a band-pass filter, a band elimination filter, a power amplifier, a diplexer, a duplexer, a coupler, a directional coupler, a memory element, a balun, and a mixer.

12. (Currently Amended) An electronic component comprising:  
a multi-layer substrate having an upper side and under side, the multi-layer substrate comprising at least one integrated impedance converter, the at least one integrated impedance converter comprising at least one inductor and at least one capacitor integrated in the multi-layer substrate, the multi-layer substrate comprising first external contacts on the under side;

at least one chip component comprising second external contacts, the at least one chip component being on the upper side of the multi-layer substrate, the at least one chip component being electrically connected to the at least one integrated impedance converter, the second external contacts being electrically connected to the first external contacts via an impedance conversion circuit that is at least partially integrated into the multilayer substrate, the impedance

conversion circuit comprising an inductive component that is electrically connected in series between the first external contacts and the second external contacts; and

at least one discrete circuit element connected to the multi-layer substrate, the at least one discrete circuit element comprising an active circuit element or a passive circuit element;

wherein the at least one chip component comprises a bulk acoustic wave (BAW) resonator or a surface acoustic wave (SAW) resonator;

wherein the at least one integrated impedance converter is configured to transform an impedance of the at least one chip component by ~~at least 5 %~~ to 400%;

wherein the at least one discrete circuit element comprises at least a part of a high-frequency circuit, a duplexer or a diplexer; ~~and~~

wherein the at least one discrete circuit element assists in connecting the at least one chip component to an antenna;

wherein the at least one chip component comprises one or more inputs and outputs; and

wherein at least one input and/or at least one output of the at least one chip component conducts a symmetrical signal.

13. (Previously Presented) The electronic component of claim 1, further comprising:

at least one circuit element integrated in the multi-layer substrate, wherein the at least one circuit element comprises at least a part of one of the following: a high-frequency circuit, an adjustment circuit, an antenna circuit, a diode circuit, a high-pass filter, a low-pass filter, a band-pass filter, a band elimination filter, a power amplifier, a diplexer, a duplexer, a coupler, a directional coupler, a memory element, a balun, and a mixer.

14. (Currently Amended) An electronic component comprising:

a multi-layer substrate having an upper side and under side, the multi-layer substrate comprising at least one integrated impedance converter, the at least one integrated impedance converter comprising at least one inductor and at least one capacitor integrated in the multi-layer substrate, the multi-layer substrate comprising first external contacts on the under side;

at least one chip component comprising second external contacts, the at least one chip component being on the upper side of the multi-layer substrate, the at least one chip component being electrically connected to the at least one integrated impedance converter, the second external contacts being electrically connected to the first external contacts via an impedance conversion circuit that is at least partially integrated into the multilayer substrate, the impedance conversion circuit comprising an inductive component that is electrically connected in series between the first external contacts and the second external contacts; and

at least one circuit element integrated in the multi-layer substrate, wherein the at least one circuit element comprises at least a part of one of the following: a high-frequency circuit, an adjustment circuit, an antenna circuit, a diode circuit, a high-pass filter, a low-pass filter, a band-pass filter, a band elimination filter, a power amplifier, a diplexer, a duplexer, a coupler, a directional coupler, a memory element, a balun, and a mixer;

wherein the at least one chip component comprises a bulk acoustic wave (BAW) resonator or a surface acoustic wave (SAW) resonator;

wherein the at least one integrated impedance converter is configured to transform an impedance of the at least one chip component by ~~at least 5 %~~ to 400%; and

wherein at least a part of an adjustment circuit is integrated in the multi-layer substrate and comprises one or more strip conductors on the upper side of the multi-layer substrate;

wherein the at least one chip component comprises one or more inputs and outputs; and

wherein at least one input and/or at least one output of the at least one chip component conducts a symmetrical signal.

15. (Previously Presented) The electronic component of claim 1, wherein the electrical component comprises a plurality of adjustment circuits.

16. (Previously Presented) The electronic component of claim 1, wherein the multi-layer substrate comprises ceramic layers.

17. (Previously Presented) The electronic component of claim 1, wherein the multi-layer substrate comprises layers of silicon or silicon oxide.

18. (Previously Presented) The electronic component of claim 1, wherein the multi-layer substrate comprises one or more layers of an organic material.

19. (Currently Amended) The electronic component of claim 1, ~~wherein the at least one chip component comprises one or more inputs and outputs; and~~ wherein at least one input and/or at least one output of the at least one chip component conducts an asymmetrical signal.

20. (Canceled)

21. (Previously Presented) The electronic component of claim 1, wherein the at least one chip component comprises a connection to ground, the connection to ground being made via an adjustment circuit that is at least partially integrated in the multi-layer substrate; and wherein the adjustment circuit comprises at least one of a coil, a capacitor and a conductor.

22. (Previously Presented) The electronic component of claim 10, wherein the at least one chip component and the at least one discrete circuit element comprise surface mounted elements.

23. (Previously Presented) The electronic component of claim 1, wherein the at least one chip component comprises a housing comprising the external contacts.

24. (Previously Presented) The electronic component of claim 1, wherein the at least one chip component is connected to the multi-layer substrate via wire bonding.

25. (Previously Presented) The electronic component of claim 1, wherein the at least one chip component is connected to the multi-layer substrate via flip-chip technology.

26. (Currently Amended) A method of producing an electronic component comprising:

providing (i) a multi-layer substrate having an upper side and under side, the multi-layer substrate comprising at least one integrated impedance converter, the at least one integrated impedance converter comprising at least one inductor and at least one capacitor integrated in the multi-layer substrate, the multi-layer substrate comprising first external contacts on the under side, and (ii) at least one chip component comprising second external contacts;

installing the at least one chip component in a housing; and

mounting the housing onto the upper side of the multi-layer substrate so as to electrically connect the at least one chip component to the integrated impedance converter and so as to electrically connect the second external contacts to the first external contacts via an impedance conversion circuit that is at least partially integrated into the multilayer substrate, the impedance conversion circuit comprising an inductive component that is electrically connected in series between the first external contacts and the second external contacts;

wherein the at least one integrated impedance converter is configured to transform an impedance of the at least one chip component by at least 5 % to 400%; ~~and~~

wherein the at least one chip component comprises a bulk acoustic wave (BAW) resonator or a surface acoustic wave (SAW) resonator;

wherein the at least one chip component comprises one or more inputs and outputs; and

wherein at least one input and/or at least one output of the at least one chip component conducts a symmetrical signal.

27. (Previously Presented) The method of claim 26, further comprising:



mounting at least one discrete circuit element on the upper side of the multi-layer substrate.

28. (Previously Presented) The method of claim 27, wherein the at least one chip component and the at least one discrete circuit element are attached to the upper side of the multi-layer substrate using a same attaching mechanism.

29. (Previously Presented) The method of claim 27, wherein the at least one chip component and/or the at least one discrete circuit element is mechanically stabilized using a casting compound.